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USSR Report

INTERNATIONAL ECONOMIC RELATIONS

(FOUO 2/82)

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USSR-WORLD TRADE

UK CORRESPONDENT DISCUSSES SOVIET GOLD SALES

PM151223 London FINANCIAL TIMES in English 15 Jan 82 p 2

[Report by David Marsh: "Low Gold Price Could Prove Costly for Russia"]

[Text] "The Russians are disappointed that the gold price is not higher with all these problems in the world."

That was the doleful comment of a leading Swiss bullion dealer back in August when, in spite of the South African invasion of Angola and the shooting down of Libyan jets by U.S. fighters, the gold price persistently refused to budge above $430 per ounce.

Five months later, the men responsible for the Kremlin's gold sales in Vneshtorgbank, the Soviet foreign trade bank, are wearing even longer faces.

Sliding Soviet foreign exchange reserves are forcing the Russians to sell more gold to the West. But, in an exact-turn-round of the events after the Soviet invasion of Afghanistan two years ago, rising East-West tension this time is failing to give the customary boost to the bullion price.

The military clamp-down in Poland gave gold only a temporary pre-Christmas sparkle. Yesterday, dogged by high interest rates and world recession, the price in London slid to $376 the lowest for well over two years against a short-lived peak of $850 in January, 1980.

After making large-scale gold sales in December--which boosted overall deliveries in 1981 to an estimated 200-220 tonnes--the Russians seem to have been absent from the London and Zurich markets during the past few days in a bid to keep prices from falling further.

South Africa, the world's biggest producer, has not been keen to sell at under $400 per ounce either. But dealers believe that the Soviet Union this year will be forced to continue selling at around the 1981 rate. The Russians need foreign exchange to cover continued grain imports and the cost of supporting hard-pressed economies in Eastern Europe.

According to one London bullion analyst: "The Russians will need to sell a similar quantity of gold this year as in 1981. Gold is the thing that they sell as a last resort. They must be desperate."

Moscow uses its Zurich-based trading bank, the Wozchod Handelsbank, as its main sales agent. Last year, marketing was diversified to include New York, and the Middle and Far East, as well as the two prime European centres.

Heavy sales during the second half of 1981 surprised some dealers. Normally, the Soviet Union chooses only periods of rising prices to offload large amounts. But latest Bank of England figures show that Moscow ran down its foreign exchange reserves to a dangerous level in London in August. This might have partly reflected switching of reserves to other centres. But currency shortage certainly forced the Russians to sell gold that month, in spite of the fragile price.

CSO: 1812/44

USSR-CEMA TRADE

CEMA FUEL, ENERGY PROBLEMS

Moscow VOPROSY EKONOMIKI in Russian No 10, Oct 81 pp 93-99

/Article by Doctor of Economic Sciences Professor Anatoliy Ivanovich Zubkov, chief of a department of the Institute of Economics of the World Socialist System of the USSR Academy of Sciences: "The Fuel and Energy Problem in the CEMA Countries"/

/Text/ One of the central places in the documents of the past congresses of the Communist and Workers Parties of the socialist countries and in the plans of social and economic development for 1981-1985 and the distant future is assigned to the solution of the fuel and energy problem. Much attention is devoted to the questions of the energy supply of the CEMA countries in the fuel and raw material long-range goal program of cooperation, which is intended to continue until 1990, as well as in the process of coordinating the national economic plans for 1981-1985. At the 35th meeting of the session of CEMA (1981) it was emphasized that the integration ties of the CEMA countries are playing an important role in supplying the national economy with fuel and raw materials.

The supply of the CEMA countries with fuel and energy is taking place under domestic and foreign economic conditions which are becoming more complicated. In practically all these countries the increase of fuel production and the development of power engineering require increasing investments, which are connected with the worsening of the conditions of the working of deposits, the increasing use of low-calorie fuel, the increase of the expenditures on environmental protection and so on. For the countries, which import fuel and power, the expenditures on their purchase have risen considerably as a result of the increase of the foreign trade prices and the need to participate in investment construction projects on the territory of the states which are suppliers of fuel and energy resources. The importance of the economical and efficient use of energy resources and the assurance of further economic development with the systematic decrease of the power-output ratio of production is increasing in this situation.

National programs or decrees of directorial organs, which orient the national economy toward the highly efficient use of fuel, energy and other material resources, have been adopted in the CEMA countries.[1] The set of measures on the saving of energy is a component of the national economic plans of these countries for 1981-1985. The measures in this area are aimed at the elimination of the unproductive and wasteful consumption of energy resources within the framework of the production technology already being used in the national economy. Along with this the retooling of a number of sectors and the introduction in them of an energy- and fuel-saving technology are planned. A considerable set of measures is also being

planned in the area of structural rearrangements and the updating of the products list in the directions of the limitation of the growth of some power- and fuel-consuming works and the preferential development of less power-consuming sectors.

Considerable allocations are being earmarked for the assurance of the economical and efficient consumption of fuel and power. The effectiveness of such investments is much greater as compared with the expenditures on the increase of the amount of additional energy resources. For example, in the GDR the assets being allocated for the efficient use of energy are from one-third to one-half of the expenditures connected with the increase of the consumption of energy resources.

The economical consumption of fuel and energy in the CEMA countries is being ensured by the introduction of revised standards, the limitation of the consumption of resources, the increase of economic sanctions, the raising of wholesale prices and the use of other levers. Thus, in Hungary the motor transport managements are obligated to pay from the profit a large fine for the deadhead run of heavy-duty trucks. In case of the evasion of this the fine is collected in 10 times the amount. In the GDR hundreds of new norms of the consumption of energy have been drawn up, which have gone into force as new standards. A decrease of the consumption of energy by evaporators by 14-35 percent, by equipment in ceramics production and baking by 15-17 percent and so on, for example, is called for by them. State limits of the consumption of energy and penalties, in conformity with which the users pay 10 times the amount for its excessive consumption, have been introduced here.

Measures of an organizational order, which ensure the efficient use of energy resources, have acquired primary importance. They include the setting of a differentiated temperature in buildings, regulate the consumption of electric power in the lighting of streets, roads and buildings, stimulate the consumption of power at the works and in housing and municipal services during the periods of the minimum load of the power supply network and so on. In transport the operation of worn out trucks is being reduced and the multishift operation of economical vehicles is being introduced, the fleet of official passenger cars is being reduced, norms of their total kilometers logged and operating time are being established, the maximum traffic speed on roads is being restricted. The retail prices for gasoline and the charge of fuel and power have been increased in a number of countries. The revision of the wholesale prices for fuel and energy is stimulating economic organizations to use them efficiently, and since in this case the prices for imported energy carriers are increasing more rapidly than the prices for domestic fuel, the stimuli for its preferential use are being increased.

Such a direction of the increase of the efficiency of the use of fuel and energy began to be used extensively in the late 1970's and is continuing in the 1980's. It does not require large investment outlays and yields significant results. At the same time the redistribution of energy resources among the sectors of the national economy yields the greatest results at the initial stage. Then these reserves can be reduced and their importance can be decreased, since the technical and technological bases are little affected when implementing these measures.

The introduction of new technology and equipment, which ensure the economical and efficient use of fuel and energy, is more capital-intensive than the above-examined measures. The development and introduction of energy-saving technology also require a long time. In the CEMA countries this direction has been developed

on a limited scale, but may become one of the basic directions in the 1980's and the more distant future.

During 1981-1985 the CEMA countries plan to continue the retooling of sectors on an increased scale, which will promote the further increase of the efficiency of energy consumption. The renovation of obsolete thermal electric power stations and the reequipment of industrial furnaces, boiler houses and other installations for the purpose of the most complete utilization of domestic solid fuel are envisaged here. A policy of decreasing the power-output ratio of products on the basis of the improvement of the design of items, the introduction of new materials and their substitutes and new technology, the use of secondary energy resources and so on has been adopted.

Technological modernization will become one of the factors of the saving of fuel and energy. In Hungary the annual saving of all types of energy resources by the end of 1981-1985 will be equivalent to the cost of 1.5-1.7 million tons of petroleum.[2] In the GDR during the current five-year plan it is planned to save 65-70 million tons of lignite.[3] In the CSSR by the end of this five-year plan the saving of energy resources in the national economy should come to not less than 12 million tons of conventional fuel.[4] In Romania the task is being set to save annually by the end of the current five-year plan more than 3 million tons of conventional fuel just by the increase of the cogeneration of thermal energy and electric power and the development of the central heating network.[5]

Whereas the organizational measures on the efficient use of fuel and energy to a considerable extent can be implemented by means of national efforts, in the case of the retooling of production, the development and introduction of energy-saving technology the greatest impact is achieved in the direction of the mututal cooperation of the CEMA countries. In this area definite achievements exist in a number of directions. For example, the use of the results of joint research on the development of highly efficient means of using gas and the creation of gas-using equipment, according to a preliminary estimate, is providing a saving of natural gas in all the CEMA countries, on the basis of the level of its consumption in 1980, in the amount of up to 10 billion m^3, while up to 15.5 billion m^3 of gas are fed annually through the Soyuz gas pipeline from the USSR to the European CEMA countries.

Various forms of joint activity, which are oriented toward the elimination of losses of fuel and energy both during their production and during their consumption, can be mutually advantageous in a number of instances. For example, as a result of the operation of the joint society of Hungary and Poland, Haldex, it was possible to eliminate the coal-containing dumps in Silesia, which had accumulated over a century, and to obtain many millions of tons of high quality coal, as well as construction materials from the accompanying rock.[6]

An extensive set of measures on the development and production of the latest mining machinery and energy-saving equipment is outlined in the fuel and raw material long-range goal program of cooperation. Their implementation is opening new prospects of the intensification of socialist production by means of the further rationalization of the use of fuel and energy resources. At the same time the gradual and thorough retooling of sectors is a constant process. Having undergone considerable development, it will also be continued in the distant future. This process can be developed most successfully on the basis of a comprehensively coordinated technical strategy of the socialist countries.

In the future the structural rearrangement of the economy of the CEMA countries, first of all of the importers of fuel and energy, will act as one of the more and more significant factors of the efficient use of energy resources. The national economic complexes of these countries during the decades of their formation were built up as multisectorial complexes, having also included power-consuming works (chemical, metallurgical and others). During the period when fuel and raw materials were inexpensive, in most instances this justified itself. Now such a means of development burdens the economy, decreases its efficiency and leads to an increase of foreign indebtedness. A number of countries are faced with the objective need to set limits to the development of fuel- and energy-consuming works and to begin structural rearrangements in the economy, taking into account the new world situation in energy supply. This rearrangement can be accomplished during the further intensification of the international socialist division of labor and the development of the joint planning activity of the CEMA countries. Such an approach guarantees the supply of the markets of the socialist countries with the necessary products, including fuel- and power-intensive products.

The socialist countries have gained considerable experience in the coordinated and interconnected development of the structures of production, which can also be used successfully in the changed economic situation. For example, the cooperation of the USSR and Hungary in the development of the aluminum industry, which was expanded extensively in the 1970's, made it possible to increase the mining of bauxites and the production of alumina in Hungary and to increase in the USSR on the basis of Hungarian deliveries of alumina the production of aluminum and its export to Hungary. As a result in Hungary, which is experiencing a shortage of domestic energy resources, by means of such cooperation up to 2.4 billion kWh of electric power are being saved annually, which corresponds approximately to its expenditures for household needs.[7] The measures of the fuel and raw material long-range goal program of cooperation, which provide for the location of the production of high power-intensive products in the USSR and low power-intensive products in other socialist countries for their mutual exchange and the meeting of increasing needs, are promising.

The structural rearrangements in the national economy and first of all in industry are connected mainly with the change of the intrasectorial proportions, but subsequently they may also affect the intersectorial proportions. In 1981-1985 a number of CEMA countries in conformity with the new energy situation will begin to adapt their economic structures to the changing conditions of the supply of fuel and energy.

In Bulgaria the progressive structural changes in the economy are recognized as one of the primary economic problems of the current five-year plan, and in this connection the output of small-tonnage chemical products, electronic equipment and other relatively nonpower-intensive types of goods is undergoing leading development. Intraworks structural changes, which ensure the saving of fuel and energy, are envisaged in Hungary. In the GDR the investments to a considerable extent are being concentrated in a highly efficient industrial structure (microelectronics, the production of robots, electronic machine building and so on). In Romania the growth rate of fuel- and power-consuming works in metallurgy, the chemical industry and other sectors is being limited. A long-range orientation toward the decrease of the growth rate or even the volumes of the output of power-consuming products is planned in the CSSR.

The process of improving economic structures, particularly by the limitation of the development of power-consuming works, of course, does not eliminate the increase of the needs for the corresponding products. For example, the need for high quality steel, including electric steel, as well as for light-weight nonferrous metals, especially aluminum, will increase. Therefore the restriction of the development of such works in some countries, apparently, should be accompanied by tneir increase in others, owing to which the importance of the coordination of the national economic plans of the CEMA countries is increasing.

In the socialist countries economic growth depends to a greater and greater extent on the efficiency of the use of fuel and energy, and not only on the amounts of the commitment of their natural resources to the economic turnover. In the European CEMA countries (excluding the USSR) during the 1970's the average annual rate of decrease of the specific power-output ratio of the national income, according to our rough estimates, was 1.2-1.3 percent, while the average annual rate of increase of energy consumption was about 4 percent. Approximately 25 percent of the economic growth was provided by the decrease of the power-output ratio of the national income and 75 percent was provided by the increase of the consumption of fuel and energy.

Nevertheless during this period the reserves in the area of the efficient use of energy resources remained very significant. According to rough estimates, in the late 1970's the power-output ratio of a unit of national income of the European CEMA countries on the average exceeded by 30-40 percent the corresponding indicator of the leading EEC countries (the FRG, England, France and Italy taken together). Thus, in the CSSR 20-50 percent more energy resources were consumed per unit of national income than in other developed countries.[8] In comparison with the indicated four West European countries the specific power-output ratio of the national income was substantially higher in Bulgaria, the GDR and Poland, at approximately the level of these countries in Romania and slightly lower than this level in Hungary.

The analysis of the basic indicators of the development of the national economy of the European CEMA countries for 1981-1985 attests that approximately 30-40 percent of the increase of the national income will be provided by the decrease of the power-output ratio of a unit of national income and 60-70 percent will be accompanied by an increase of the consumption of energy resources. During the current decade the average annual rate of the decrease of the specific power-output ratio of the national income will be, apparently, not less than 1.5 percent, while in the GDR and the CSSR this decrease will be even more significant.

The economic development of the socialist countries, which is being ensured to an increasing extent by the economical and efficient use of energy resources, also presumes the further increase of the consumption of fuel and energy. However, whereas in the 1970's the average annual increase of the national income by 1 percent was due to the average annual increase of the consumption of primary energy resources by about 0.8 percent, during the 1980's the latter indicator may decrease to approximately 0.7 percent. According to the most reliable estimates, the consumption of primary energy resources in the European group of CEMA countries in 1978 came to 560-580 million tons of conventional fuel.[9]

During 1981-1985 the average annual increase of the national income in Bulgaria is planned at the level of approximately 4-4.5 percent, in the GDR--5-5.4 percent, in the CSSR--2.7-3 percent, in Hungary--2.7-3.2 percent and in Romania--6.7-7.4 percent. As a whole for the European CEMA countries during the 5-year period this

indicator will thus be approximately 4 percent. If in the listed countries in the future to 1990 the 4-percent average annual growth rate of the national income is taken into account, an average annual increase of the consumption of energy resources by 2.8 percent should correspond to it. In this case their total consumption in 1990 may increase to approximately 800 million tons of conventional fuel. A higher rate of economic growth will cause a further increase of the consumption of fuel and energy and, on the contrary, a slowing of the rate of economic grow may decrease the need for energy resources. Other things being equal, economic growth will depend on the amount of energy resources which the countries have available.

The interrelationship of economic growth and energy consumption in Cuba, Vietnam and Mongolia is distinguished by a special feature. In this group of socialist countries in the 1980's the proportion of industry and especially of its base sectors--the mining, fuel and power sectors, some metallurgical works, the construction materials industry--will increase, modern types of transport will undergo development, the mechanization of agriculture will be intensified. During such development the increase of energy consumption usually leads the increase of the national income. The trends being revealed for the 1980's in the development of the national economy of Cuba, Mongolia and Vietnam make it possible to expect that in them for every 1-percent increase of the national income the increase of the consumption of primary energy resources may be not less than 1.2-1.5 percent, that is, the average growth rate of the consumption of fuel and energy here may be several fold greater than in the European CEMA countries.

The further increase of the use of fuel and energy at a faster rate in Vietnam, Cuba and Mongolia and at a slower rate in the European group of CEMA countries is causing the need for the involvement in the economic turnover of large additional energy resources.

In the future nuclear power engineering will become the most important direction of the development of the fuel and power management of the CEMA countries. By 1990 nuclear electric power stations with a total installed capacity of up to 37 million kW, which is equivalent to the consumption of up to 70 million tons of conventional fuel a year, will be built on the territory of the European CEMA countries. The production of the equipment for them and the building of these projects are being carried out on the basis of mutual cooperation. As a result, the role of nuclear electric power stations in the total generation of electric power is increasing considerably. Thus, in 1985 in the CSSR nuclear electric power stations will account for approximately 20 percent of the generation of electric power in this country and in Bulgaria--about 26 percent of the generation of electric power in this country.

The CEMA countries are cooperating in development in the case of the building of thermal reactors with a unit capacity of 1 million kW, which should replace the 440,000-kW reactors now being produced. However, as Academician A. Aleksandrov notes, thermal reactors cannot ensure the development of nuclear power engineering for the distant future, and science proposes a radical means--the development of fast breeder reactors, since only in this case is it possible to approach nuclear power engineering which is self-sufficient in fuel for an unlimited time.[10] The first reactors of this type have been built in the USSR. The pooling of the efforts of the CEMA countries is making it possible to expedite the work on the assimilation of these reactors and to turn to the development of nuclear power engineering in the new direction.

The construction of the Khmel'nitskaya and Konstantinovskaya AES's with a total capacity of 8 million kW is planned by joint efforts on the territory of the USSR. The amount of deliveries of electric power from them to the European CEMA countries by 1990 may be increased to 20-22 billion kWh a year, which is equivalent to the annual use at thermal power stations of 7-8 million tons of conventional fuel. The idea of creating large nuclear power complexes, which was advanced by Soviet scientists, is of interest for the more distant future.

During the present decade the generation of electric power in the CEMA countries along with the development of nuclear power engineering will be based to a significant extent on thermal electric power stations. Here at the electric power stations liquid fuel is being replaced by domestic solid fuel (brown coals, lignites, shale). Thus, in Romania the proportion of coal-powered electric power stations will be increased in the generation of electric power from 35 percent in 1980 to 55 percent in 1985. The mining of brown coals in the GDR and the CSSR and of lignites in Bulgaria is increasing.

The increase of the production of raw materials in the majority of CEMA countries is being accomplished under mine working and economic conditions which are becoming more complicated. Thus, in the GDR the specific capital outlays per unit of increase of the production of raw materials in the 1970's increased by 50 percent, while in the 1980's they will increase by more than twofold as compared with the 1960's.[12] With the development of the mining of coals and lignites their ash and moisture content increase, the calorific value decreases. This leads to a substantial decrease of the service life of power boilers, unplanned shutdowns and repairs of equipment and a considerable excessive consumption of fuel. The purification of fuel at the site of its production provides a large economic impact in transportation and power engineering, which exceeds the expenditures on cleaning. Cooperation in the development and production of equipment for the preparation of solid types of fuel for use in power management makes it possible to decrease the effect of this unfavorable natural factor on the indicators of the development of power engineering of the CEMA countries.

In the 1980's it is planned to expand the use of water resources, including by joint efforts. Thus, several powerful hydroelectric and pumped-storage power stations will be built by mutual cooperation on the territory of the European CEMA countries. Along with this the use in some countries of the water power potential of small rivers, especially in mountainous regions, is possible.

The rising costs in obtaining petroleum and its increasing value as a chemical raw material and motor fuel are leading to the more and more limited consumption as boiler fuel of the residues of petroleum refining (fuel oil). The degree of the refining of petroleum in many CEMA countries is 45-50 percent. As estimates show, an increase of the degree of refining to 65-70 percent makes it possible to additionally obtain in these countries up to 15 million tons of light petroleum products and lubricating oils and to decrease accordingly the yield of fuel oil.[13] In conformity with the agreement on the specialization and cooperation of the production of advanced types of sets of equipment for the heavy refining of petroleum in the CEMA countries, including the USSR, in 1981-1990 it is planned to produce various units with a total refining capacity of about 190 million tons of petroleum a year. Cooperation in the production of units which ensure the refining of petroleum according to the most advanced technologies (catalytic cracking, hydrocracking and others) is of particular importance.

In the 1980's the CEMA countries intend to expand the geological prospecting operations and cooperation in this area. Thus, the joint Petrobaltic organization, which was created by the GDR, Poland and the USSR, is carrying out exploratory drilling for petroleum and gas on the shelf of the Baltic Sea within the territorial waters of these states. Cooperation in the performance of geological prospecting and the recovery of petroleum and gas on the continental shelf of Vietnam is envisaged in accordance with the 1980 agreement between the USSR and Vietnam.

The use of new methods of recovering petroleum may be of great importance for the CEMA countries. Thus, in Romania the treatment of petroleum in the beds with bacteria was successfully tested, which made it possible to increase substantially its extraction in a number of depleted fields. Here it is planned to increase the coefficient of the petroleum yield of the beds from 31.5 percent in the late 1970's to 37 percent in 1985 and 40 percent in 1990.[14] In the USSR the experimental and pilot industrial use of polymers and other reagents, intrabed burning and high-pressure steam in recovering petroleum has begun. Experience attests that the new methods will make it possible to increase the coefficient of the petroleum yield to 55-60 percent.

The cooperation of the CEMA countries in the intensification of the use of petroleum resources can be developed in several directions. For example, the coordinated development of the production of the chemical reagents necessary for this, their reciprocal deliveries, the sharing of experience in the working of reserves and so on will be of mutual interest.

The large reserves of coals, lignites and shale in the European CEMA countries make it possible to direct attention to their versatile use, including as raw materials for obtaining liquid fuel. This problem is especially urgent for the USSR and Poland, on the territory of which the largest coal fields are located. These two countries have concluded an agreement on cooperation in the development of methods of obtaining liquid fuel from coal.

The production of natural gas in the USSR will be developed in the future. As was reported in the Accountability Report of the CPSU Central Committee to the 26th party congress, for the socialist countries their participation in the increase of the recovery and transportation of Western Siberian natural gas may be of substantial importance. The large reserves of gas in this region of the USSR and the experience of the construction by the socialist states of the Soyuz gas pipeline are making it possible to aim at the joint working of these reserves and the increase of the deliveries of Soviet gas to the European CEMA countries.

In the CEMA countries the losses of accompanying liquids, which are a valuable raw material for the chemical industry and a high calorie fuel, are considerable in the recovery of natural gas. The losses mainly at small- and intermediate-capacity fields, as world experience attests, can be reduced by several times by the means of modern technology. Equipment of the unitized type, which is tailored for moving from some relatively small fields to others as the production of gas increases or decreases, is required for this. The production of such equipment, which is based on international specialization and cooperation, and its efficient use are making it possible to commit additional reserves of raw materials to the economic turnover of the CEMA countries.

The further development of the domestic energy base of the CEMA countries, including Mongolia, Vietnam and Cuba, will be combined with the importing of fuel and energy, including from developing countries. The USSR remains the main exporter of these products to the CEMA countries. However, the increase of deliveries of fuel and energy from the USSR is undergoing substantial change. Whereas in 1976-1980 the exports of energy from the USSR to the CEMA countries increased as compared with the preceding 5-year period by 43 percent, in 1981-1985 it will increase as compared with 1976-1980 by 20 percent. Thus, the energy resources, which the CEMA countries have during the current 5-year period, are limited and require their very efficient use for the assurance of the necessary rate of economic growth.

Thus, in the 1980's an overall strategy of the solution of the fuel and energy problem by the CEMA countries is being formed. It is based on the economical and efficient consumption of energy resources, the adoption of energy-saving technology and structural changes in the economy, which ensure the systematic decrease of the power-output ratio of production; the structural rearrangement of the balance of primary energy resources, in which the proportion of atomic energy and solid types of fuel is increasing; the slower increase of production and the consumption of primary energy resources as compared with the preceding decade; mutual cooperation, which is oriented toward the decrease of the power-output ratio of production and the efficient consumption of energy resources, which encompasses the field of the study of new resources and sources of energy, and also includes the continuation of deliveries of energy resources from the USSR to the other CEMA countries.

The rate of economic growth of the CEMA countries in the 1980's along with other conditions will be determined by the progress of the implementation of this strategy and its individual components and by the intensity of cooperation in the main directions of the solution of the fuel and energy problem.

FOOTNOTES

1. See, for example, "Decree No 28 of the Council of Ministers of the People's Republic of Bulgaria of 28 June 1979" (D"RZHAVEN VESTNIK, 13 July 1979); "Decree of the GDR Council of Ministers on the Efficient and Economical Use of Electric Power, Thermal Energy, as Well as Solid and Liquid Fuel" (NEUES DEUTSCHLAND, 21 September 1979): "Decree of the State Council of the Socialist Republic of Romania on the Taking of Steps on the Proper Management and the Reduction of the Consumption of Electric Power, Thermal Energy and Natural Gas" (SCIENTEIA, 31 July 1979); "Decree of the CPSU Central Committee and the USSR Council of Ministers 'On the Intensification of the Work on the Economy and Efficient Use of Raw Material, Fuel, Energy and Other Material Resources'" (PRAVDA, 4 July 1981).
2. NEPSZABADSAG, 20 January 1981.
3. NEUES DEUTSCHLAND, 15 April 1981.
4. RUDE PRAVO, 7 April 1981.
5. "Romania. Documents--Events," Bucharest, AGERPRES, No 37, 1979, pp 16, 19.

6. RUDE PRAVO, 23 January 1980.

7. See "Toplivno-syr'yevaya problema v usloviyakh sotsialisticheskoy ekonomicheskoy integratsii" /The Fuel and Raw Material Problem Under the Conditions of Socialist Economic Integration/, Izdatel'stvo "Nauka", 1979, pp 37-38.

8. RUDE PRAVO, 8 April 1981.

9. SPRAWY MIEDZYNARODOWE, No 9, 1980, p 24; "Energy Problems and Cooperation in the ECE Region." Statistical annex. Economic Commission for Europe. Energy (R 10), add. 1, 16 December 1980.

10. See KOMMUNIST, No 4, 1981, pp 89-90.

11. See EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 1, 1977, p 72.

12. WIRTSCHAFTSWISSENSCHAFT, No 10, 1980, p 1176.

13. See VNESHNYAYA TORGOVLYA, No 10, 1980, p 17.

14. See PRAVDA, 12 January 1981.

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CSO: 1825/28

USSR-CEMA TRADE

HANDBOOK ON SOVIET, CEMA AGRICULTURE

Moscow MIR SOTSIALIZMA V TSIFRAKH I FAKTAKH in Russian 1980 (signed to press 25 Sep 81) pp 2, 43-68, 128

[Annotation, table of contents and chapter entitled 'Agriculture' in book "Mir Sotsializma v Tsifrakh i Faktakh" [The World of Socialism in Figures and Facts]]

[Excerpts] Under the general editorship of R. N. Fedorov

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The World of Socialism in Figures and Facts. 1980: Reference Book. I. A. Kapranov, V. I. Kartsev, N. N. Pusenkov, and others. Moscow: Politizdat, 1981.

Annual reference publication. In it are reflected the achievements of the socialist countries in 1980 in the most important spheres of political and economic cooperation. The extensive statistical and factual material shows the development of the basic sectors of the national economy, the growth of the material welfare and cultural level of the workers, the intensification and development of multilateral foreign economic relations.

The reference work is prepared on the basis of official statistical data and materials of the the periodical press of the socialist countries.

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AGRICULTURE

The development of agriculture, the increase of its efficiency and the consistent intensification of agriculture and livestock production are constantly at the center of attention of the communist and working-class parties of the socialist countries. During the past five-year-plan (1976-1980), a broad complex of measures has been implemented in the states of the socialist commonwealth with regard to the further steady raising of the production of the basic types of agricultural production, the growth in the yield of agricultural crops, and the increase in the productivity of livestock-raising. A great deal of attention was devoted to the organizational strengthening of agricultural production cooperatives and state farms, the expansion and intensification of the specialization and concentration of production on the basis of inter-farm cooperation and agro-industrial integration.

The unfavorable weather conditons that developed for the agriculture of the majority of the socialist countries in 1980 were responsible for a certain reduction in the volume of gross agricultural production as a whole in the countries of the socialist commonwealth. This affected above all the volume of the gross harvest of potatoes, which declined in all European CEMA member countries, as well as sugar beets and vegetables. The harvest of bread grains and leguminous plants, first of all wheat and rye, collected in 1980 was greater than in the preceding year. For example, in 1980 127.3 million tons of wheat were harvested in the European CEMA member countries (12.4 percent more than 1979) and 19.4 million tons of rye (22.8 percent more). The livestock production of the socialist countries continued to become stronger: In the majority of countries there was an increase in large cattle livestock and especially in poultry.

In the agriculture of the Soviet Union important changes took place during the years following the March (1965) Plenum of the CPSU Central Committee, which set forth the basic directions of agricultural policy of the CPSU. As a result of enormous efforts by the party and the people, the productive forces of the country increased to a new level, there was an increase in the production scales of kolkhozes and sovkhozes, there was further intensification of its specialization and concentration on the basis of inter-farm cooperation, and the economic links within the framework of the agro-industrial complex expanded and became more complicated. As was noted in the materials of the 26th CPSU Congress, the material-technical base of agriculture, which is acquiring an increasingly industrial appearance, was significantly strengthened. There was an increase in the power availability per worker and large-scale work was carried out in the area of irrigation and reclamation construction. The realization of these measures required a significant increase in capital investments in agriculture. The increase in the production efficiency of agriculture in the USSR was accomplished primarily on the basis of the acceleration of scientific-technical progress and the amplification of the role of intensive factors of development. The intensification of agriculture made it possible to steadily increase the output volume of production while reducing the number of workers in this sector of the national economy. The volume of production output calculated per hectare rose in 1976-1980 by a factor of 1.3 compared to 1971-1975.

In 1980 unfavorable weather conditions for agriculture developed in many regions of the Soviet Union. However, the strenuous labor of the workers in agriculture and measures adopted by state and party organs made it possible to weaken their negative influence on the results of the agricultural year. The gross production of agriculture in 1980 amounted to 121.2 billion rubles (in comparable 1973 prices) --which is 6.6 percent higher than the average annual production in the 9th Five-Year-Plan. The average annual volume of gross agricultural production for 1976-1980 reached 123.7 billion rubles (compared to 113.7 billion rubles of average annual volume in 1971-1975). Compared to 1965 the gross production of agriculture increased by 35 percent, including the production of plant growing by 32 percent, and the production of livestock production--by 39 percent.

As a result of the continuing process of specialization and concentration in agriculture, the number of inter-farm enterprises and organizations increased to 9,661 by the end of 1980 (in 1965--3,354; in 1975--6,330); 154,400 (in 1965--48,500, in 1975--94,100) kolkhozes, sovkhozes and other enterprises and organizations took part in them. At the end of 1980 there were more than 500 agro-industrial production and agricultural organizations.

The number of sovkhozes increased to 21,000 by the end of 1980 (compared to 11,700 in 1965 and 18,100 in 1975). The average annual number of workers employed in sovkhozes amounted to 11,500,000 people. The total sowing area of the sovkhozes reached 111.8 million hectares (1965--89.1 million hectares). A sovkhoz in 1980 averaged 17,300 hectares of agricultural lands, including 5,600 hectares of arable land, 1,906 head of large cattle, 1,124 hogs, and 59 tractors. By the end of 1980 equipment in all the sovkhozes numbered 1,228,000 tractors, 380,000 grain combines, and 592,000 heavy trucks.

The number of kolkhozes declined from 26,500 at the end of 1979 to 25,800 at the end of 1980 as the result of their enlargement and the transformation of a certain part of the kolkhozes into sovkhozes (by the decision of the general meetings of the kolkhoz workers. The average annual number of kolkhoz workers working in the public economy of the kolkhozes came to 13,300,000 (1965--18,600,000; 1975--15,200,000). The total of all public areas under grain crops of the kolkhozes in 1980 came to 95.2 million hectares and 54.8 million hectares of grain crops per 1,000 people (in 1975--98.2 million hectares and 56.6 million hectares respectively). The livestock of public productive cattle in the kolkhozes by the end of 1980 increased to 47.9 million head (1965--38.3 million; 1975--47.6 million head). At the end of 1980 the kolkhozes had 1,110,000 tractors, 306,000 grain combines, and 537,000 heavy trucks. The gross income of the kolkhozes in 1980 amounted to 19.6 billion rubles (in 1975--21.5 billion rubles for a comparable range of kolkhozes). Calculated per completed man-day, kolkhoz workers in 1980 were paid 5.51 rubles in cash and products (in 1965--2.68 rubles; in 1975--4.54 rubles). At the end of 1980, one kolkhoz averaged 494 kolkhoz households, 6,600 hectares of agricultural land (including 3,800 hectares of arable land), 1,845 head of large cattle (in 1965--1,056; in 1975--1,664), and 43 tractors.

As the result of unfavorable weather conditions in BULGARIA, the gross production of agriculture in 1980 diminished by 4.8 percent compared to the preceding year. There was a reduction in the yield of such crops as rye, corn, leguminous plants, sugar beets, potatoes, and fodder root-crops.

The agriculture of HUNGARY, whose average annual growth rate during the past few years has amounted to 2.9 percent, is developing at a stable rate. The level of development attained by this sector of the national economy is evidenced by the fact that in 1980 1,300 kilograms of grain and 140 kilograms of meat were produced per capita in the country. At the present time, the population is continuously supplied with agricultural products and the necessary commodity funds are being created for their growing export.

The production of agricultural output in Hungary increased during 1976-1980 by 15 percent compared to the level of the preceding five-year-plan, including in state farms and agricultural production cooperatives--by 20 percent and in private plots and subsidiary farms--by 8 percent. The production volume of plant-growing for the five years increased by 11 percent and the production of livestock--by 20 percent. The increase in agricultural production volume was secured in conditions of a general reduction in area under agricultural crops (the allotting of land for industrial and transport construction).

During the past 5 years the area of arable land has diminished by 241,000 hectares and there has also been a reduction in area set aside for fruit orchards and vineyards. At the same time there has been an increase in areas allotted to vegetable crops, meadows and pastures. The reduction in the number of people employed in agriculture, being noticed in Hungary as well as in practically all of the CEMA member countries, was more moderate during the years of the past five-year-plan than during the preceding years, but the number of people employed in the large agricultural enterprises during the past two years has grown somewhat.

In VIETNAM the growth production of agriculture increased by 16.6 percent during 1976-1980. Moreover, the production of plant-growing, which accounts for more than 80 percent of the gross production of total agricultural production, increased by 20.6 percent, the production of livestock--by 2.5 percent.

In the agriculture of the GDR [German Democratic Republic] the highest production indicators attained during any of the preceding five-year-plans were noted in 1976-1980. In spite of unfavorable weather conditions, a good harfest of grain and other crops was gathered and the state plan targets were overfulfilled by 2 percent. The plan of state purchases was overfulfilled for all products of livestock-raising. The existing cattle livestock corresponds to the plan targets for 1980 and guarantees the prerequisites for the plan fulfillment of the following year.

Successful development took place in regard to the concentration and specialization of production. Modern plant-growing and livestock-producing agricultural production cooperatives and national estates have developed. The agricultural production cooperatives cultivate 87.6 percent of the agricultural land and the national estates--6.9 percent. In the interest of the further expansion of agricultural production, special attention is being given not only to agricultural production cooperatives and national estates, but also to the private subsidiary farms. Private farms and the union of gardeners and amateur cattle-raisers account for a large quantity of marketed vegetables, fruit, honey, meat from large cattle, hogs, chicken and other products--which significantly helps improve the supply of the

population with food products. The number of members of the union of gardeners and amateur livestock-producers increased from 800,000 in 1970 to 1 million in 1980.

The average annual growth of agricultural production in CUBA during 1976-1980 amounted to 3.5 percent. During the past five-year-plan, the development of agricultural production was adversely affected by unfavorable weather conditions, as well as by the spread of dangerous diseases of the basic agricultural crop--sugarcane, and also tobacco. For the purpose of stimulating the growth of agricultural production, a new and more progressive system of procurement prices has been introduced effective 1 January 1981.

The first successes on the road of the comprehensive development of agricultural production have been noted in the LAO PEOPLE'S DEMOCRATIC REPUBLIC. In spite of the difficulties caused by a destructive war, the difficulties inherited from the old regime, the natural calamities which have struck the Lao People's Democratic Republic in the course of a number of years, as well as the subversive operations of the enemies of the Lao people, the sown areas of the country have been restored and expanded by 24 percent and the areas under non-grain and technical crops have doubled.

The development of agriculture in POLAND in 1980 took place under exceedingly unfavorable weather conditions. Excessive precipitation rendered the performance of agricultural operations very difficult and were the reason for the flooding and inundation of approximately 1.7 million hectares of agricultural land. This caused a significant decrease in the harvest, especially of cultivated crops and hay--which to a decisive extent affected the results of the agricultural year. The volume of gross production of agriculture in 1980 decreased by 9.6 percent in comparison with 1979, including in the production of plant-growing--by 15.2 percent, and livestock production--by 3.3 percent.

In RUMANIA the average annual volume of gross production in agriculture during 1976-1980 increased by 26.4 percent compared to the average annual volume of the preceding five-year-plan. The average annual growth rates of agricultural production during 1976-1980 came to 4.8 percent. In the state farms the realization of measures to expand and modernize their material-technical base continued. The production output in state farms during 1976-1980 increased by 27 percent compared to the preceding five-year-plan. In 1980 state farms accounted for 22.5 percent of wheat production, 40 percent of fruit, 58.3 percent of pork, 68.7 percent of poultry meat, 30.2 percent of cow milk, and 63.5 percent of eggs. The realization of measures regarding the economic and organizational strengthening of agricultural production cooperatives continued. Agricultural production cooperatives and inter-cooperative economic associations received credits from the state and allotted significant capital investments from their own resources for the expansion and modernization of the material-technical base. Advanced technology was introduced in plant-growing and livestock production. An important role in increasing the efficiency of agricultural production was played by the united state and agro-industrial councils, which guaranteed a more rational distribution of agricultural crops, a more efficient use of land resources and the material-technical base, and the broad application of progressive agro-technical measures.

In spite of two unfavorable years with respect to weather conditions, the agriculture of CZECHOSLOVAKIA achieved certain successes during 1976-1980. The volume of agricultural production for the five years grew by 9 percent, including the production of plant-growing--by 6.7 percent, and livestock production--by 11 percent. The last year of the five-year-plan--1980--was one of the unfavorable ones for the agriculture of the Czechoslovak Socialist Republic. Regardless of this fact, the volume of gross agricultural production increased by 6 percent compared to 1979. In 1980 the country had 1,747 agricultural production cooperatives, the average size of agricultural land of which amounted to 2,474 hectares. The state farms (including subsidiary enterprises of industrial enterprises) numbered 203, and the average size of their agricultural land reached 6,784 hectares. In agriculture there were 352 joint agricultural enterprises and 591 cooperative interfarm associations.

The Strengthening of the Material-Technical Base of Agriculture

The progressive development of agricultural production in the socialist countries is secured primarily by virtue of the further strengthening of the material-technical base of this important sector of the national economy, its technical re-equipment, and the systematic growth of the level of /mechanization/ of all types of agricultural operations.

In the SOVIET UNION capital investments in the development of agriculture for the entire complex of operations increased (in comparable prices): In the 7th Five-Year-Plan they amounted to 48.2 billion rubles, in the 8th--81.5 billion, in the 9th--130.5 billion, and in the 10th--171.1 billion rubles. In 1980 alone, 36 billion rubles were spent for the development of agriculture--16.9 percent more than in 1975 and 2.6 percent more than in 1979. A total of 30.7 billion rubles was directed towards the construction of production projects. Of the total sum of capital investments in the development of agriculture during 1976-1980, 113.4 billion rubles represented state capital investments, 57.7 billion rubles--capital investments of kolkhozes. The increase of the volume of capital investments earmarked for agriculture is accompanied by the growth of their relative weight in the total volume of capital investments in the entire national economy: In the 7th Five-Year-Plan their relative weight amounted to 20 percent, in the 8th Five-Year-Plan--23 percent, in the 9th Five-Year-Plan--26 percent, and in the 10th Five-Year-Plan--more than 27 percent. For all the years of Soviet power capital investments in the development of agriculture for the whole complex of operations came to 491 billion rubles.

By virtue of the construction of new and also the expansion of existing enterprises, the years of the 10th Five-Year-Plan saw the introduction of elevators for 18.6 million tons (including in 1980--3 million tons), grain depots and storage facilities for 31.7 million tons (6 million tons), 3.8 million hectares (0.7 million hectares) of irrigated land,3.6 million hectares (0.6 million hectares) of drained land, and 34 million hectares (in 1980--4.7 million hectares) of irrigated pastures. During 1976-1980 the following were constructed: Poultry plants for egg production with a capacity of 41.4 million laying hens (including in 1980--for 7.4 million); poultry plants for meat production with a capacity of 362.2 million units of poultry per year (100.5 million units); livestock housing, including mechanized farms and complexes for 21.3 million cattle

places for large horned cattle (3.9 million); 13.6 million for hogs (3 million) and 23.3 million for sheep (in 1980--3.7 million).

In BULGARIA measures were taken in 1980 to prevent soil erosion in an area of approximately 150,000 hectares. About 1,200 hectares of damaged areas were restored to production and approximately 2,100 hectares were drained. Chemical land improvement was undertaken and fertility was restored in 98,000 hectares of salty soils and soils with increased acidity. Plant protection by biological means and integrated methods was carried out on more than 290,000 hectares.

During 1976-1980 124 billion forints were allotted to the development of agricultural production in HUNGARY, more than 50 billion forints to the food industry, and 9 billion forints to forestry and the timber-processing industry. Livestock production farms were created for several hundred thousand cattle places, the traction force of the machinery park increased by 30 percent and its capacities exceeded 7 million kilowatts. Grain storage facilities with a total capacity of 2 million tons were built.

In the GERMAN DEMOCRATIC REPUBLIC 25.4 billion marks were spent in 1976-1980 for strengthening of the production base of agriculture--which amounted to one tenth of all means allotted to the national economy of the GDR. The fixed capital of agriculture during this period increased by 29 percent.

In LAOS more than 100,000 hectares were irrigated during the past five-year-plan, and there was an increase in the number of mechanical devices and machines used in agriculture.

The volume of capital investments in the agriculture of MONGOLIA in 1980 increased by 14 percent. A number of complex farms were constructed and 3,387 livestock housing units were put into operation for 1.7 million head of cattle. The plan for putting them into operation was overfulfilled by 20.9 percent, for watering points --by 4.7 percent.

In RUMANIA land improvement work during 1976-1980 was carried out in an area totaling 891,000 hectares--which is almost 12 percent more than during 1971-1975. The total area of irrigated land reached 2,300,000 hectares.

During 1976-1980 capital investments in agriculture in CZECHOSLOVAKIA came to 76 billion crowns, including 34 billion crowns spent for the expansion of the machinery park and the acquisition of different types of harvesting equipment. In 1980 57,000 hectares of crop land were drained, and 16,000 hectares were irrigated.

The growth of state appropriations for the expansion and strengthening of the material-technical base of agriculture in the socialist countries makes it possible to increase the security of this sector with modern and highly-productive machines.

During 1976-1980 agriculture in the SOVIET UNION was supplied with 1,805,300 tractors with a total engine capacity of 144.1 million horse power; 1,343,800 heavy trucks (including specialized trucks and chassis); 973,400 tractor ploughs; 1,147,100 tractor drills; 539,000 grain combines; 62,400 beet combines; 57,200 potato combines; 475,600 mowing machines for tractors; and 120,500 irrigation machines and

installations. In 1980 agriculture received 346,700 tractors with a total engine capacity of 28.9 million horse power; 270,000 heavy trucks; 196,600 tractor ploughs; 226,700 tractor drills; 200,100 tractor cultivators; 117,500 grain combines; 10,500 potato combines; 46,400 silage combines; 8,900 cotton pickers; 85,500 tractor mowers; 48,600 spreaders for mineral fertilizers and lime; 32,000 balers; 58,400 milking installations; 18,800 irrigation machines and installations; and a significant number of other machines and installations. The tractor park in agriculture grew from 1,613,000 in 1965 and 2,334,000 in 1975 to 2,562,000 in 1980; the combined capacity of their engines came to 78 million horse power in 1965, 152 million horse power in 1975, and 191 million horse power in 1980. The grain combines in the agriculture of the country numbered: 520,000 in 1965; 680,000 in 1975; and 713,000 at the end of 1980. The truck park in agriculture grew from 945,000 in 1965 and 1,396,000 in 1975 to 1,607,000 in 1980; their combined carrying capacity amounted to 2,580,000 tons in 1965, 4,446,000 tons in 1975, and 5,895,000 tons in 1980.

The power availability per worker is consistently growing in agriculture. Power capacities in the agriculture of the USSR increased from 231,7 million horse power in 1965 and 457.2 million horse power in 1975 to 605 million horse power in 1980. Power capacities per worker in kolkhozes, inter-farm agricultural enterprises and sovkhozes increased from 7.7 horse power in 1965 and 16.8 horse power in1975 to 24.2 horse power in 1980. For every 100 hectares of sown area in 1980 there were 260 horse power of power capacities (in 1965--100 horse power; in 1975--190 horse power). The total consumption of electric power in agriculture (including that received from state power stations) increased from 21.1 billion kilowatt hours in 1965 and 73.8 billion kilowatt hours in 1975 to 109 billion kilowatt hours in 1980.

The agriculture of BULGARIA in 1980 was supplied with 4,352 tractors (21 percent more than in 1979), 1,383 heavy trucks (12 percent), 3,213 tractor ploughs (8 percent), and 2,035 tractor drills (11 percent more).

The technical equipment of the agriculture of HUNGARY increased. In 1980 4,524 tractors, 2,066 tractor drills, and 1,105 grain combines were sent here. The capacity of machines and power units available to the agriculture of the country increased by approximately 30 percent during 1975-1980.

In the GERMAN DEMOCRATIC REPUBLIC machine and equipment deliveries to agriculture were realized according to plan; in 1980 5,692 tractors and 400 grain combines were delivered. A total of 147,900 tractors, 54,600 heavy trucks, and 13,600 grain combines were working in agricultural enterprises.

Deliveries of machines and mechanical devices are increasing in LAOS--which, along with the growth of the use of mineral fertilizer, makes it possible to make wide use of intensive methods of conducting agricultural production.

Table 1. Tractor Park in Agriculture
(In Physical Units, at the End of the Year, in thousands)

Countries	1950	1960	1970	1975	1979*	1980*
USSR	595	1,122	1,977	2,334	2,540	2,562
Bulgaria	6.6	25.8	53.6	64.7	64.4	63.4
Hungary	13.4	41.0	68.4	62.1	58	57.1
GDR	36.4	71	149	140	140	143
Cuba	...	...	51.6	54.8	66.3	70.4
Mongolia	0.1	1.7	5.5	8.1	9.6	9.6
Poland	28.4**	62.8**	231	411	525	599
Rumania	13.7	44.2	107	120	139	140
Czechoslovakia	25.8***	74.9	136	142	140	138
Yugoslavia	...	30.7	68.2	226	. . .	. . .

*)At the beginning of the year, except USSR.
**)Not including gardening and truck-farming tractors.
***)1951.

The agriculture of MONGOLIA was supplied with more than 700 tractors, 170 grain combines and a significant quantity of other technical equipment in 1980.

Difficulties arose in POLAND in 1980 in the supply of agriculture with the means of production. The cost of deliveries of tractors, trailers, engines and agricultural machines amounted to 32.7 billion zlotys, which is 2.6 percent less than in 1979. Deliveries included 60,000 tractors, 37,000 tractor ploughs, 12,000 tractor drills, 4,100 grain combines. Of the total number of tractors--618,000 units--at the disposal of the agriculture of the country at the end of 1980, approximately 115,000 were found in agricultural groups and cooperatives (a reduction of 5.8 percent for the year) and approximately 378,000 tractors (an increase of 14.5 percent for the year) in the non-socialized sector of agriculture. The total cost of credits granted to the rural population in 1980 amounted to 44.7 billion zlotys--which is 13.6 percent less than in 1979.

During the past five-year-plan (1976-1980) the number of tractors in the agriculture of RUMANIA increased by 27,000. The number of self-propelled combines grew by 17,900 to 39,100. By 1980 the ploughing, sowing and harvesting of cereals, sunflowers and soy-bean were almost completely mechanized. An important direction of the intensification of agricultural production in the socialist countries is its /chemicalization/. The quantity of mineral fertilizers and chemical plant protection agents being supplied to this sector is growing.

In the SOVIET UNION the production of mineral fertilizers grew (in conventional units) from 31.3 million tons in 1965 and 90.2 million tons in 1975 to 104 million tons in 1980 (recalculated per 100 percent of nutritious substances--to 24.8 million tons). In the 100 percent calculation according to operating principle, 103,000 tons of chemical plant protection agents were produced in 1965, 264,000 tons in 1975, and 283,000 tons in 1980. In the production of mineral fertilizers the Soviet Union occupies first place in the world. By virtue of the construction of new, as well as the expansion and reconstruction of operating enterprises, the

following capacities for the production of mineral fertilizers were put into operation (average per year): During 1966-1970--6.6 million tons; during 1971-1975--7.6 million tons; during 1976-1980--7.9 million tons, including in 1980--9.9 million tons. In 1980 agriculture received 81.8 million tons of mineral fertilizers in conventional units (recalculated per 100 percent of nutrient substances--18.8 million tons) and 2.7 million tons of chemical feed additives (recalculated per 100 percent of nutrient substances--0.5 million tons). During the years of the 10th Five-Year-Plan a total of approximately 390 million tons of mineral fertilizers were supplied to agriculture.

In BULGARIA the production of mineral fertilizers in 1980 amounted to 3.3 million tons and, recalculated per 100 percent of nutrient substances--0.6 million tons.

The production of mineral fertilizers in HUNGARY in 1980 reached 4.9 million tons (recalculated per 100 percent nutrient substances--1 million tons). The consumption of mineral fertilizers in the agriculture of the Hungarian People's Republic in 1980 (1.4 million tons), although somewhat lower than in 1975, increased in effectiveness of their use--which is evidenced by the improvement in the indicators achieved in plant-growing.

In the agriculture of the GERMAN DEMOCRATIC REPUBLIC [we find] one of the highest levels of consumption of mineral fertilizers per hectare of arable land and perennial plantations. In 1980 a total of 15.1 million tons of mineral fertilizers was produced and, recalculated per 100 percent of nutrient substances, 4.8 million tons.

Table 2. Deliveries of Mineral Fertilizers to Agriculture
(In Thousands of Tons of Nutrient Substances)

Countries	1950	1960	1970	1975	1979	1980*
USSR	1,261	2,624	10,317	17,251	17,365	18,763
Bulgaria	6.2	157	639	679	820	830
Hungary	35.2	168	837	1,535	1,502	1,400
GDR	678	951	1,535	1,826	1,713	1,637
Cuba	...	...	396	331	...	...
Mongolia	...	...	1.9	25.6	42.3	44
Poland	363	745	2,416	3,460	3,567	3,635
Rumania	6	82	702	1,197	1,431	1,185
Czechoslovakia	262	510	1,227	1,604	1,745	1,730
Yugoslavia	...	284	632	720	...	...

*) Preliminary data, except USSR.

The deliveries of mineral fertilizers to the agriculture of MONGOLIA in 1980 amounted to 44,000 tons.

In RUMANIA the production of mineral fertilizers in 1980 reached 12.1 million tons (recalculated per 100 percent of nutrient substances--2.5 million tons). During

1976-1980 agriculture was supplied with 6.4 million tons of mineral fertilizers (recalculated per nutrient substances)--which is 1.9 million tons more than during 1971-1975. The average annual consumption of mineral fertilizers per hectare of arable land during 1976-1980 amounted to 112 kilograms compared to 77 kilograms during the preceding five-year-plan.

In CZECHOSLOVAKIA 5.7 million tons of fertilizers were produced in 1980 (1.2 million tons recalculated per nutrient substances). The deliveries of mineral fertilizers to agriculture reached 1,730,000 tons in 1980 (in nutrient substance)--which made it possible to increase the consupmtion of mineral fertilizers per hectare of agricultural lands.

Table 3. Application of Mineral Fertilizer per Hectare of Arable Land and Perennial Plantations (In Kilogram of Nutrient Substance)

Countries	1950	1960	1970	1975	1978	1979
USSR	7.3	12.2	46.8	77.5	82.5	77.7
Bulgaria	1.5	36.1	159	166	180	201
Hungary	6	29.4	150	276	286	280
GDR	129	188	319	370	331	340
Cuba	...	...	125	96.4	...	...
Mongolia	...	...	2.3	34.2	35.7	41.7
Poland	24.1	48.6	162	236	241	239
Rumania	0.6	7.9	66.7	114	141	137
Czechoslovakia	49.7	94.6	230	305	334	335
Yugoslavia	...	34	77	90	107	...

The Production of the Output of Agriculture

Unfavorable weather conditions that developed in 1980 for a number of socialist countries were reflected in the results achieved in agriculture. For the agriculture of the SOVIET UNION the year 1980 was one of the unfavorable ones in terms of weather conditions. Regardless of this fact, the average annual harvest of grain during the years of the 10th Five-Year-Plan exceeded 200 million tons for the first time. If during 1961-1965 it amounted to 130.3 million tons, during 1966-1970 to 167.6 million tons, during 1971-1975 to 181.6 million tons, it reached 205 million tons during 1976-1980. In 1980 189.1 million tons of grain were produced--10 million tons more than in 1979; 98.2 million tons of wheat were harvested; 10.2 million tons of rye; 9.5 million tons of corn; 6.4 million tons of leguminous plant crops; and 2.8 million tons of rice.

The largest harvest of raw cotton was brought in--9.96 million tons. The plan for selling it to the state was overfulfilled by all cotton-growing republics. The procurement points received 6.24 million tons from the farms of the Uzbek SSR, 1.26 million tons from the Turkmen SSR, 1.01 million tons from the Tajik SSR. The harvest of sugar beets (for factories) amounted to 79.6 million tons; sunflower--4.65 million tons; potatoes--67 million tons; and vegetables--25.9 million tons.

These results were achieved in the presence of a certain decrease of the sowing area under bread grains and potatoes during the years of the 10th Five-Year-Plan, as well as the partial expansion of sowing areas under industrial crops and fodder crops.

The average annual state procurements of grain during 1976-1980 came to 77.7 million tons (in 1980--69.4 million tons) by comparison with 67.6 million tons during the years of the 9th Five-Year-Plan. State purchases of cotton grew from 7.67 million tons on the average during 1971-1975 to 8.93 million tons during 1976-1980 (in 1980--9.96 million tons). In 1980 64.4 million tons of sugar beets were procured; 3.36 million tons of sunflower; 11.1 million tons of potatoes; and 17.7 million tons of vegetables.

Table 4. Output of the Products of Agriculture in All Categories of Farms of the USSR (Millions of Tons)

Products	Average per Year 1971-1975	1976-1980	1979	1980
Grain	181.6	205.0	179.2	189.1
Raw cotton	7.67	8.93	9.16	9.96
Sugar beets (for factories)	76.0	88.4	76.2	79.6
Sunflower	5.97	5.32	5.41	4.65
Potatoes	89.8	82.6	91.0	67.0
Vegetables	23.0	26.0	27.2	25.9

The average annual production of grain in HUNGARY during 1976-1980 was 11 percent more than the average annual production during 1971-1975. The average annual harvest of wheat during the past five-year-plan came to 5.2 million tons, that of corn--6.3 million tons--which signifies a growth of 20 percent and 7 percent respectively by comparison with the preceding five-year-plan. The increased harvests of cereals were attained thanks to an increase in their yield (in the presence of a reduction of sown areas). Sown area under sugar beet cultivation increased by 26 percent during the five-year-plan, but the harvest of sugar beets increased by 28 percent. The production of sunflower seeds was increased at accelerated rates. In 1980 the sown areas under sunflower cultivation almost doubled by comparison with 1975, and the harvest tripled. While there were significant annual fluctuations, on the whole the harvest of fruits and grapes increased during the five-year-plan.

In the GERMAN DEMOCRATIC REPUBLIC a good harvest of grain and several other agricultural crops was brought in. In 1980 the harvest of cereals was the third highest for all the years of the existence of the GDR. Plan targets for some other crops were also fulfilled or overfulfilled. However, there was a decrease in the harvest of potatoes, sugar beets, oil-producing crops, and a number of vegetables and fruits. The plan for the state procurements of plant-growing production was fulfilled with respect to cereals, edible leguminous plants,

Table 5. Gross Harvest of Grains and Leguminous Plants
(In Thousands of Tons)

Countries	Average per Year 1951-1955	1961-1965	1971-1975	1976-1979	1979	1980*
USSR	88,500	130,335	181,554	209,012	179,176	189,090
Bulgaria	4,200	4,863	7,465	8,043	8,360	7,708
Hungary	6,100	6,905	11,527	12,408	12,191	...
GDR	6,400	5,969	8,760	8,970	8,952	9,737
Cuba	...	...	397	464	447	511
Mongolia	35	289	366	369	331	259
Poland	12,300	15,427	21,241	20,014	17,570	18,541
Rumania	8,400	11,101	14,974	19,272	19,424	20,304
Czechoslovakia	500	5,658	9,436	10,030	9,300	10,992
Yugoslavia	4,700**	11,200***	11,800****	15,700*****	15,779	...

*) Preliminary data, except USSR. **)1950. ***) 1960. ****) 1970. *****) 1976-78.

food potatoes, and fruit. At the same time, the plan was not fulfilled with respect to the procurement of oil-producing crops, sugar beets, and vegetables.

Table 6. Gross Harvest of Potatoes
(In Thousands of Tons)

Countries	Average per Year 1961-1965	1971-1975	1976-1979	1979	1980*
USSR	81,628	89,782	86,458	90,956	67,023
Bulgaria	400	355	387	424	315
Hungary	1,998	1,602	1,596	1,512	1,366
GDR	12,066	10,806	10,038	12,243	9,297
Cuba	...	81	176	201	243
Mongolia	21.3	25.5	50.4	72.4	39
Poland	43,682	47,083	46,830	49,572	26,394
Rumania	2,600	3,387	4,506	4,562	4,135
Czechoslovakia	5,635	4,571	3,928	3,725	2,713
Yugoslavia	2,711	2,930	2,787**	2,670	...

*) Preliminary data, except USSR. **) 1976-1978.

In LAOS the production of rice and other agricultural crops increased by 31 percent during the past five years.

Extremely unfavorable weather conditions developed in 1980 for the agriculture of MONGOLIA. There was a reduction in the gross harvest of cereals, potatoes and other agricultural crops. The harvest of vegetables came to 26,000 tons and of fodder crops--103,000 tons.

In POLAND the harvest of the basic four grain crops (wheat, rye, barley and oats) amounted to 16.4 million tons, 2.9 percent less than the average annual harvest of these crops during 1975-1979. In 1980 the wheat harvest came to 4.2 million tons; rye--6.6 million tons; barley--3.4 million tons; and oats--2.2 million tons. The harvest of potatoes and sugar beets was considerably smaller than in 1979.

Table 7. Gross Harvest of Sugar Beets
(For Factories, in Thousands of Tons)

	Average per Year					
Countries	1951-1955	1961-1965	1971-1975	1976-1979	1979	1980*
USSR	24,000	59,170	75,983	90,668	76,214	79,559
Bulgaria	600	1,440	1,711	1,931	2,045	1,445
Hungary	2,100	3,093	3,097	3,988	3,928	3,873
GDR	5,200	5,373**	5,496	6,424	6,502	6,668
Cuba***	...	47,500****	50,670+	51,100++	...	...
Poland	6,500	11,436	13,741	15,152	14,154	10,370
Rumania	1,300	2,637	4,758	6,278	6,109	5,561
Czechoslovakia	5,500	6,277	6,867	7,073	7,613	7,223
Yugoslavia	...	2,344	3,629	5,070++	5,920	...

*) Preliminary data, except USSR. **) Including sugar beets for cattle feeding. ***) Sugar-cane. ****) 1960. +) Average for 1971-1973. ++)1976-1978.

In RUMANIA the average annual production of grain during 1976-1980 increased by 30.8 percent compared to the average annual production during the preceding five-year-plan. In 1980 they obtained: 11.2 million tons of corn (compared to 8.4 million tons on the average per year during 1971-1975); 1.4 million tons of fruit (compared to 1.1 million tons; 1.3 million tons of grapes (compared to 1.2 million tons).

During 1976-1980 the production of cereals in CZECHOSLOVAKIA increased by 7.6 percent. In 1980 a good harvest of cereals and rape was brought in. In 1980 1.5 million tons of cereals more than in 1979 were obtained. The harvest of rape--213,000 tons--was significantly larger than in 1979 (and larger than planned)--which made it possible to limit the import of seeds of oil-producing crops. A good harvest of perennial green forage was obtained--5.4 million tons, 1.5 million tons more than in 1979. But there was a significant reduction in the potato and sugar beet harvest. State procurements came to 3.5 million tons of grain, 209,000 tons of rape, and 988,000 tons of potatoes for sale to the population. The procurement plan was fulfilled with respect to grain and rape; with respect to potatoes the plan was underfulfilled to the extent of 33.3 percent.

The intensification of agricultural production in the socialist countries finds reflection in the gradual growth of the yield of the basic agricultural crops, regardless of the fluctuations that occur during individual years as a result of weather conditions.

Table 8. Yield of Cereals and Leguminous Plants
(Quintals per Hectare)

Countries	Average per Year 1951-1955	1961-1965	1971-1975	1976-1979	1979	1980*
USSR	8.0	10.2	14.7	16.3	14.2	14.9
Bulgaria	13.9	19.0	33.1	35.3	37.0	35.9
Hungary	16.1	20.3	35.0	40.2	40.3	...
GDR	22.9	25.3	35.7	34.8	35.3	37.8
Democratic People's Republic of Korea	...	19.1**	...	...	...	...
People's Republic of China	...	15.5**	...	...	...	...
Cuba	...	...	20.7***	23.1	21.4	22.6
Mongolia	6.2	7.4	8.6	7.1	5.6	4.6
Poland	12.4	17.0	25.1	24.8	21.8	23.1
Rumania	11.7	15.9	24.1	29.9	30.0	30.8
Czechoslovakia	18.3	21.8	33.9	36.1	33.5	40.5
Yugoslavia	...	19.8+	31.8++	34.2+++	...	...

*) Preliminary data, except USSR. **) 1965. ***) 1973-1975.
+) 1960. ++) 1975. +++) 1976.

In the SOVIET UNION the average annual yield of food grains rose from 10.2 quintals per hectare during 1961-1965 to 16 quintals per hectare in 1976-1980. There is continued growth in the yield of the cotton plant: In 1965 it amounted to 23.2 quintals per hectare; in 1970--25.1 quintals; in 1975--26.9 quintals; in 1980--31.7 quintals per hectare. In 1980 214 quintals of sugar beets (for factories) were harvested per hectare, 10.7 quintals of sunflower, 96 quintals of potatoes, and 147 quintals of vegetables per hectare.

A stable and high yield of cereals was attained in the agriculture of HUNGARY: The average annual yield of wheat during 1976-1980 came to 40.6 quintals per hectare; corn--48.6 quintals per hectare--which in both cases is approximately 7 quintals per hectare higher than during the preceding five-year-plan.

In VIETNAM the yield of the basic food crop--rice--which occupies more than 5.5 million hectares, in 1980 amounted to 20.8 quintals per hectare (according to preliminary data); sugar-cane--410 quintals; jute--20.5 quintals; and peanuts--9.6 quintals per hectare.

In 1980 the yield of practically all basic agricultural crops in the GERMAN DEMOCRATIC REPUBLIC exceeded their average annual yield during 1976-1979. Thus, 38.1 quintals of grain per hectare were obtained in 1980 as compared to 35.2 quintals per hectare on the average during 1976-1979; oil-producing crops--23.6 quintals (compared to 22.5 quintals); potatoes--180 quintals (174 quintals); sugar beets--278 quintals (266); cultivated fodder crops--404 quintals (341); and corn for green fodder and silage--312 quintals per hectare (288 quintals per hectare).

In RUMANIA the yield of wheat during 1976-1980 increased by 4.7 quintals per hectare, corn--by 6.6 quintals per hectare, sunflower--by 1.6 quintals per hectare, sugar beets--by 27 quintals per hectare, and tomatoes--by 10.7 quintals per hectare. A higher yield was also achieved in the basic fodder crops being cultivated: Alfalfa for hay--by 14.7 quintals per hectare, fodder root crops--by 5.3 quintals per hectare, and silage crops--by 16.3 quintals per hectare, although the low production of fodder crops was noted, especially in an area of 4.5 million hectares of meadows and pastures.

The Output of Livestock Production

In all socialist countries the necessary conditions are being secured for the further development of livestock production, the increase of its productivity, and the expansion of production of the most important types of production.

In the USSR the gross production of livestock in 1980 increased by 4 percent compared to 1975 and surpassed the level of 1965 by 39 percent and the level of 1970 by 17 percent. Large cattle livestock increased by 4 million head during 1976-1980; while in the kolkhozes, interfarm organizations, sovkhozes and other state organizations it increased from 87.6 million to 92.1 million, it decreased somewhat in the private subsidiary farms of the population (from 23.4 million to 23 million head). At the end of the past five-year-plan the livestock of cows reached 43.4 million, of which 30.2 million were in kolkhozes, interfarm organizations, sovkhozes and other state farms, and 13.2 million head--in private subsidiary farms of the population. The livestock of swine increased by 15.6 million during the 10th Five-Year-Plan, that of sheep and goats practically remained at the same level. The average yield of milk from one cow in all categories of farms in 1980 amounted to 2,143 kilograms, including in sovkhozes--2,246 kilograms; in interfarm agricultural enterprises--2,952 kilograms. The average annual production of meat during the years of the 10th Five-Year-Plan increased by comparison with the average annual level of its production during the 8th Five-Year-Plan by 27.6 percent; milk--by 14.9 percent; eggs--by 76.3 percent; and wool--by 15.6 percent.

Table 9. The Output of Livestock Products in the USSR
(In All Categories of Farms)

Products	Average per Year				
	1966-1970	1971-1975	1976-1980	1979	1980
Meat (in dead weight, millions of tons)	11.6	14.0	14.8	15.4	15.0
Milk (millions of tons)	80.6	87.4	92.6	93.2	90.7
Eggs (in billions)	35.8	51.4	63.1	65.8	67.7
Wool (thousands of tons)	398	442	460	478	462

State procurements of cattle and poultry (in live weight) in 1980 amounted to 15.9 million tons (recalculated as dead weight: 9.9 million tons); milk and milk products (recalculated as milk)--57.3 million tons; eggs--43.1 billion. The

established volume of egg purchases was overfulfilled; that for cattle and poultry, as well as eggs was underfulfilled. The relative weight of kolkhozes, sovkhozes and other state farms in the total volume of procurements in 1980 amounted to: Cattle and poultry--94 percent (in 1975--87 percent); milk--94 percent (95 percent); eggs--97 percent (94 percent); and wool--83 percent (in 1975--84 percent).

During the years of the past five-year-plan (1976-1980) a gradual increase in cattle livestock was noted in BULGARIA. Domestic poultry livestock increased from 38.1 million in 1975 to 41.6 million in 1980. The output of the basic types of livestock production in 1980 exceeded the level of the preceding year: Meat--by 0.7 percent, amounting to 692,000 tons (in dead weight); milk--by 0.3 percent (2,146 liters); eggs--by 8.4 percent (2,480 million units).

Table 10. Large Cattle Livestock
(In Thousands of Heads, at the End of the Year)

Countries	1950	1960	1970	1975	1979	1980*
USSR	57,089	75,780	99,225	111,034	115,100	115,057
Bulgaria	1,947	1,642	1,353	1,725	1,839	1,843
Hungary	2,022	1,965	1,912	1,904	1,950	1,911
GDR	3,615	4,675	5,190	5,532	5,596	5,722
Cuba	...	5,000	5,738	5,500	5,212	...
Mongolia	1,988	1,906	2,108	2,427	2,477	2,397
Poland	7,200	8,695	10,220	12,764	12,164	11,335
Rumania	4,502	4,530	5,216	6,126	6,513	6,485
Czechoslovakia	4,303	4,387	4,288	4,555	4,915	5,002
Yugoslavia	...	5,297	5,202	5,938	5,566	...

*) Preliminary data, except USSR.

Large cattle livestock in HUNGARY amounted to 1.9 million at the end of 1980. The livestock of swine during 1976-1980 continued to increase; in 1980 they numbered almost 20 percent more than in 1975. Sheep livestock grew by approximately 1 million head during the five-year-plan; there was an increase in domestic poultry livestock. Approximately 56 percent of the total number of slaughter animals during the past few years were swine, and the proportion of the production of beef decreased, having amounted to 17 percent in 1980. In the production of meat the share of dressed poultry increased: In 1980 it reached 20 percent. The production of milk increased by approximately 40 percent thanks to the increase in milk yield.

In VIETNAM the buffalo livestock increased during 1976-1980 by 5.7 percent; cows--by 11 percent; and swine--by 14.7 percent.

In the GERMAN DEMOCRATIC REPUBLIC livestock of all types of farm animals increased. Large cattle livestock increased by 126,000 during the year; moreover the livestock of cows--from 2,124,000 to 2,138,000. The livestock of swine increased by 739,000 during the year, including sows--by 10,000 and sheep--by 59,000. Laying hens numbered 26,500,000 in 1979 and 26,844,000 in 1980. The average annual milk yield

from one cow continued to increase: During the year it increased by 50 kilograms and reached 3,923 kilograms in 1980. The plan for state purchases of all livestock products was overfulfilled. The procurements of cattle ready for slaughter increased by 2.7 percent during the year and reached 2,334,000 tons; milk--by 1.7 percent (to 7,919,000 tons); and eggs--by 5.7 percent (to 4,709 million units).

Table 11. Swine Livestock
(Thousands of Heads, at the End of the Year)

Countries	1950	1960	1970	1975	1979	1980*
USSR	24,372	58,674	67,483	57,899	73,898	73,382
Bulgaria	818	2,553	2,369	3,889	3,830	3,806
Hungary	4,782	6,388	7,311	6,953	8,355	8,265
GDR	5,705	8,316	9,684	11,501	12,132	12,871
Mongolia	2.5**	3.9	10.7	12.5	34.5	33.9
Poland	9,350	12,615	13,863	21,647	20,983	18,728
Rumania	2,197	4,300	6,359	8,813	10,899	11,542
Yugoslavia	...	6,210	5,544	7,683	7,747	...

*) Preliminary data, except USSR. **) 1952.

Table 12. Sheep Livestock
(Thousands of Heads, at the End of the Year)

Countries	1950	1960	1970	1975	1979	1980*
USSR	82,595	133,014	138,059	141,436	143,599	147,487**
Bulgaria	7,820	9,333	9,678	10,014	10,536	10,433
Hungary	990	2,250	2,316	2,039	2,927	3,000
GDR	1,085	2,015	1,595	1,883	1,979	2,038
Cuba***	...	...	76.2	101	165	...
Mongolia	12,575	12,102	13,312	14,458	14,410	18,797**
Poland	2,199	3,662	2,661	3,178	3,633	4,200****
Rumania	10,222	11,500	13,818	13,865	15,820	16,212**
Czechoslovakia	596	646	981	805	875	967**
Yugoslavia	...	11,449	8,974	8,175	7,339	...

*) Preliminary data, except USSR. **) Sheep and goats. ***) State sector
****) In mid-year.

Certain successes were achieved in the livestock production of LAOS, where the number of large cattle in 1980 exceeded 1.2 million.

In MONGOLIA 8.5 million head of young animals were raised in 1980. The plan for purchases of cattle for the country as a whole was fulfilled to the extent of 93 percent.

The insufficient provision of livestock feeds in POLAND in 1980 led to the reduction in large cattle livestock compared with 1979; sheep livestock also decreased by 0.4 percent. The production of meat amounted to 3.2 million tons (in dead weight)--2.6 percent less than in 1979; milk--16.2 billion liters (1.4 percent less); eggs--8.9 billion units (2.1 percent more). State purchases of livestock products in agricultural enterprises of the socialized sector increased by 5 percent compared to 1979; in the non-socialized sector they decreased by 0.6 percent, regardless of a significant increase of prices for agricultural products.

In RUMANIA large cattle livestock during 1980 increased by 5.9 percent; swine--by 31 percent; sheep and goats--by 13.3 percent; domestic poultry--by 24.4 percent. The growth of cattle livestock took place primarily in the socialist agricultural organizations, in which the breeding and fattening of cattle in modern livestock complexes on an industrial basis expanded. The average annual production of meat during the five-year-plan (in dead weight) amounted to 2,333,000 tons; cow milk--48.9 million hectoliters; wool--35,400 tons; and eggs--6,566 million units. The production of livestock during 1976-1980 exceeded the average annual level of the preceding five-year plan: With respect to meat--by approximately 560,000 tons; cow milk--by 10.3 million hectoliters;wool--by 4.800 tons; and egg production--by approximately 1,920 million units. However, state plan targets with respect to the growth of cattle livestock, meat,milk and wool production were not fulfilled.

Livestock production in CZECHOSLOVAKIA is developing at steady rates. During 1976-1980 the production of meat and milk increased by 13 percent. Cattle livestock is growing gradually, and its productivity is increasing. At the end of 1980 large cattle numbered more than 5 million head (including 1.9 million cows), swine--7.9 million. The average annual yield of milk per cow increased to 3,089 liters--which is 133 liters more than at the end of 1979. The total increase in milk production amounted to 237 million liters. The average annual egg output of hens reached 228 eggs (in 1979--224 eggs). In the socialist sector of agriculture the average daily gain in weight of cattle being fattened came to 0.72 kilograms, of swine--0.516 kilograms. For every 100 cows an average of 98.5 calves was raised, for one sow--16.7 suckling pigs. By comparison with 1979, 27,000 more calves and 488,000 more suckling pigs were raised in 1980.

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